

**Notice of Allowability**

Application No.

10/699,246

Examiner

Nikita Wells

Applicant(s)

WIELAND ET AL.

Art Unit

2881

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Examiner's Amendment.
2. ☒ The allowed claim(s) is/are 1-36.
3. ☒ The drawings filed on 30 October 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>010505</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>010505</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                             | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                       |
|  | 9. <input type="checkbox"/> Other _____  |

Nikita Wells  
 Primary Examiner  
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## **Detailed Action**

### ***Examiner's amendment***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Eric S. Hyman on January 4, 2005.

The Examiner initiated an interview with the Applicant in order to clear up improper claim dependencies and amend some of the independent claims in order that the application could be allowed. The changes in claims 14 and 33-36 are as follows:

In claim 14, line 1: "any one of the preceding claims," has been changed to --claims 6, 7, and 8,--.

In claim 33, line 1: "generator for generating a plurality of electron beamlets," has been changed to --exposure apparatus according to claim 1,--.

In claim 34, line 1: "A method for" has been changed to --An electron beam exposure apparatus according to claim 1, further comprising means for--. A period has been placed after "surface". On lines 1 and 2, the following has been deleted: "with an electron beam, using an electron beam exposure apparatus according to any one of the preceding claims."

Claim 35 has been changed to the following:

35. An electron beam exposure apparatus according to claim 1, wherein the pattern is used for transferring onto a wafer.

In claim 36, line 3: --the intensity of-- has been inserted after “for modulating”.

***Allowable Subject Matter***

2. Claims 1-36 are allowed.

3. The following is an examiner’s statement of reasons for allowance:

With respect to the newly amended independent claim 1, prior art fails to disclose or make obvious, in combination with the other recited features of the claim limitations, an electron beam exposure apparatus for transferring a pattern onto the surface of a target comprising: a beamlet generator for generating a plurality of electron beamlets; a modulation array for receiving said plurality of electron beamlets, comprising a plurality of modulators for modulating the intensity of an electron beamlet; a controller for individually controlling the modulators using control signals; and an adjustor connected to each modulator for individually adjusting the control signal of each modulator.

The dependent claims 2-30 and 34-35; and 32 are allowable by virtue of their dependence upon the independent claims 1 and 31, respectively.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. M.R. Sogard (2003/0132382 A1) discloses a particle beam inspection system utilizing a plurality of electron beamlets directed simultaneously towards a mask. Kawata et al. (5,969,362) disclose an electron beam exposure system using multiple electron beamlets which are modulated as needed and are focused onto a stage.


5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikita Wells whose telephone number is (571) 272-2484. The examiner can normally be reached on 8:30 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The central fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nikita Wells, Primary Examiner  
Art Unit 2881  
January 5, 2005